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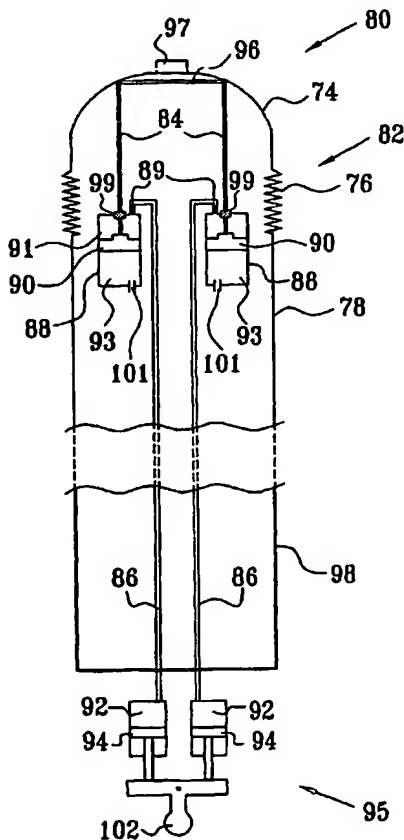
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(54) Title: PISTON-ACTUATED ENDOSCOPIC STEERING SYSTEM



(57) Abstract: Endoscopic steering apparatus is provided, including an endoscope (80) having distal (82) and proximal (98) ends thereof. In a preferred embodiment, at least one proximal cylinder (92) is disposed in a vicinity of the proximal end of the endoscope, and at least one proximal piston (94) is slidably coupled to the at least one proximal cylinder. This piston is typically manually driven. A first distal cylinder (88) is disposed at the distal end of the endoscope, and a first distal piston (90) is slidably coupled to the first distal cylinder. A second distal cylinder (88) is disposed at the distal end of the endoscope, and a second distal piston (90) is slidably coupled to the second distal cylinder. A first tube (86) is coupled to the first distal cylinder and to the at least one proximal cylinder, and a second tube (86) is coupled to the second distal cylinder and to the at least one proximal cylinder. A linkage (96) is disposed at the distal end of the endoscope and coupled to the first distal piston and to the second distal piston, such that displacement of at least one of the distal pistons causes displacement of the linkage and steering of the distal end of the endoscope.